BACTERIOLOGICAL NOMENCLATURE AND TAXONOMY

LIST OF
OFFICIAL OPINIONS OF THE JUDICIAL COMMISSION
AND OF REQUESTS FOR OPINIONS

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THE JUDICIAL Commission of the International Committee on Bacteriological Nomenclature is directed by Provision 5 of the International Bacteriological Code of Nomenclature to issue Opinions concerning problems of bacteriological nomenclature when requested to do so, and the Commission is authorized to exercise certain plenary powers in the suspension of a rule in any case in which, in its judgment, strict application of the rule would clearly result in greater confusion than uniformity. The Commission is further authorized to prepare Opinions for discussion with similar Commissions representing zoology or botany relative to the nomenclatural status of microorganisms not classed with the bacteria or the viruses but studied by microbiological techniques.

Many requests for Opinions have been submitted to the Commission. It is the purpose of this statement to list these requests and to review the present status of each.

The Commission expects to prepare for each case as complete a preliminary statement as practicable, giving the facts as they have been uncovered, and to publish such statement in this BULLETIN so that it may be studied by the members both of the Commission and of the International Committee, as well as by all others interested. Comments, criticisms and suggestions concerning the content of these preliminary statements may be

sent to the chairman of the Editorial Board.

Two Opinions have been issued and preliminary statements of several others have been circulated to members of the Judicial Commission for a vote as to the nature of the Opinions to be issued. Preliminary statements of four others are published in this Number of this BULLETIN, and others are in course of preparation. Suggestions as to the formulation of these statements will be greatly appreciated by the editors.

OPINIONS ISSUED

The Opinions of the Judicial Commission will be numbered in sequence. The following have been issued.

OPINION 1. THE CORRECT SPELLING OF THE SPECIFIC EPITHET IN THE SPECIES NAME *EACILLUS NEGATERIUM* DE BARY 1884. (1).

OPINION 2. THE COMBINING FORMS (STEMS) OF COMPOUND BACTERIAL GENERIC NAMES ENDING IN *BACTERIUM*, *BACTER*, OR *BACTRIUM* (*BACTRON*). (2)

OPINIONS REQUESTED BUT FORMULATION NOT COMPLETED.

Requests for Opinions are given FILE NUMBERS for reference until the Opinions have been formulated and issued. The file numbers and tentative titles of the requests

- (1) This BULLETIN 1: 35, 1951
- (2) Idem 1: 37, 1951

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for Opinions are listed below, in some cases with a statement as to progress

FILE NO. 3 WHAT GENDER SHOULD BE ASSIGNED TO NAMES OF BACTERIAL GENERA WHICH END IN -BACTER? More than forty generic names ending in -bacter have been proposed in bacteriology. The authors are not in agreement as to the appropriate gender: some have indicated that the name should be masculine, others neuter. A preliminary statement has been circulated to the Commissioners, a vote taken and an Opinion is in Process of preparation.

FILE NO. 4. COMBINING FORMS AND STEMS OF COMPOUND BACTERIAL GENERIC NAMES ENDING IN -OPSIS. There is some confusion in biological literature because there is no agreement as to the stems of generic names ending in -opsis. In zoology in general the genitive of -opsis is regarded as -opsis, and the stem is taken to be -ops with resultant family names ending in -opsidae. In botany some authors agree with the zoologists in regarding the genitive as -opsis and the proper form of a family name as -opsaceae. Others recognize the genitive form -opsidis and favor -opsidaceae as the ending of a family name. A preliminary statement has been circulated to the Commissioners. This problem has proved to be much more complicated than was originally anticipated, and a second preliminary statement is under preparation for publication in this BULLETIN.

FILE NO. 5. STATUS OF THE GENERIC NAME BACTERIUM, THE SPECIFIC NAME BACTERIUM COLI, AND THE FAMILY NAME BACTERIACEAE. Authors are not agreed as to whether the generic name *Bacterium* should be conserved or

rejected, and if conserved, as to whether *Bacterium coli* should be designated as the type species, and the family name *Bacteriaceae* conserved or rejected. A preliminary statement was circulated to the members of the Judicial Commission. Inasmuch as the decisions are so important from the standpoint of eliminating confusion, it has been thought advisable to redraft the preliminary statement and publish it in the April number of the BULLETIN

FILE NO. 6. THE CORRECT SPELLING OF THE SPECIFIC EPITHET IN THE SPECIES NAME *MICROCOCCUS LYSODEIKTICUS* FLEMING 1922. Should words such as *lysodeikticus* transliterated from the Greek to the Latin without conformity to the classic tradition be corrected? It has been suggested that the specific epithet should be spelled either *lysodicticus* or *lysidicticus*. A preliminary statement has been prepared and is published elsewhere in this number of this BULLETIN

FILE NO. 7. STATUS OF *PSEUDOMONAS* MIGULA 1894 AS A GENERIC NAME, AND OF *PSEUDOMONAS AERUGINOSA* (Schröter) MIGULA 1900 AS TYPE SPECIES. The preliminary statement has been prepared and is published in this number of this BULLETIN (2) for the consideration of members of the Judicial Commission and to stimulate discussion and comments from others interested

FILE NO. 8. THE STATUS OF *CHLOROBACTERIUM* GUILLEBAU 1819 AND *CHLOROBACTERIUM* LAUTERBORN 1915 AS BACTERIAL

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- (1) This BULLETIN 1: 39, 1951
 - (2) Idem 1: 41, 1951

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GENERIC NAMES AND THE STATUS OF *CHLOROBACTERIACEAE* LAUTERBORN 1913. A preliminary statement has been prepared and is published in this number of this BULLETIN (1).

FILE NO. 9. THE CITATION OF THE AUTHOR WHEN A SUBGENUS BECOMES A GENUS, OR WHEN A GENUS BECOMES A SUBGENUS. The question was raised in connection with the change in status of *Coxiella* Phillip 1943 originally described as a subgenus of *Rickettsia*. Bengston 1948 recognized *Coxiella* as a genus with the name cited as *Coxiella* Bengston 1948. Action was taken by the International Committee at the Rio (1950) Congress and will be reported in this BULLETIN.

FILE NO. 10. SPELLING OF BACTERIAL GENERIC NAMES DERIVED FROM PATRONYMS. Recommendation 27C of the International Bacteriological Code suggests the method to be used when a new generic or subgeneric name is formed from the name of a person. Specifically, should the generic name *Cowdria* named in honor of Cowdry be changed in spelling to *Cowdrya*?

FILE NO. 11. THE USE OF NAMES OF TAXA IN THE VERNACULAR, THE USE OF PLURALS OF GENERIC AND SUBGENERIC NAMES, AND THE USE OF THE SINGULAR FORMS OF NAMES OF TAXA HIGHER THAN THE GENUS. Several queries have come to the Commission which indicate considerable interest in the determination of the propriety of the use of the plural generic names, the singular of names of taxa higher than the genus, and the appropriate method of coining vernacular names from various taxa. Among the specific questions that have been submitted are the following:

1. May a Latin generic name in its singular form be used as the subject of a plural verb, may it in other words, be considered as a collective noun which may be used either in a plural or singular sense?
2. May the Latin name of a genus be used in its Latin plural form?
3. If so used, what meaning or meanings has the plural?
4. How may the generic names used in bacteriology become vernacular names?
5. How may their plurals be formed and how may these vernacular names be properly used?
6. May the Latin plural name applied to taxa above the genus be used in the singular form to designate a single specimen or species?
7. How may the vernacular equivalents of the names of taxa above the ranks of genus be formed?
8. Should vernacular names of taxa in any language be recognized as the equivalent of the approved Latin form in determination of priority? For example, should such vernacular names as *Kokkaceen* or *Coccaeas* be transliterated into correct Latin form and acquire significance in determination of priority? Perhaps one of the questions that should first be asked is whether these are strictly problems in bacteriological nomenclature and whether they should be considered by an International Judicial Commission.

FILE NO. 12. SPELLING OF SPECIFIC EPITHETS DERIVED FROM PLACE NAMES. Many place names, particularly in areas which were a part of the Roman Empire, have

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both ancient or medieval Latin names as well as modern names. Modern specific epithets have been derived from both sources, as from Plymouth, both *plymouthicum* and *plymouthensis*.

FILE NO. 13 SPELLING OF SPECIFIC EPITHETS DERIVED FROM PATRON-

YMICS. In some cases modern patronymics have classical Latin or medieval Latin equivalents. For example, the equivalent specific epithets *pasteurianus* and *pastorianus* are both derived from the name of Pasteur. It has been suggested that the use of these alternatives is a source of confusion in the literature of bacteriology.

FILE NO. 14 TRANSLITERATION OF THE GREEK LETTER UPSILON INTO LATIN. The usual transliteration is to *y*, or in diphthongs to *u*. There are some cases, however, of transliteration into *i*. We have in the literature for example, the alternative spellings *Calymmatobacterium* and *Calimmatobacterium*.

FILE NO. 15 CONSERVATION OF THE CLASS NAME *SCHIZOMYCETES* AND DESIGNATION OF THE TYPE ORDER. It may be desirable to conserve the class name *Schizomycetes* against other names which have been used for this group, and likewise to designate the type order of the class.

FILE NO. 16 CONSERVATION OF THE GENERIC NAME *STREPTOCOCCUS*. DEFINITE AGREEMENT UPON THE NAME OF THE TYPE SPECIES AND OF SELECTION OF THE TYPE CULTURE. It is important there be a properly designated type culture or standard culture of the type species of the genus maintained in the several national type culture collections.

FILE NO. 17. CONSERVATION OF THE

GENERIC NAME *SERRATIA* AND THE FIXING OF THE TYPE SPECIES AND THE TYPE CULTURE. The generic name *Serratia* is one of the oldest in the literature of bacteriology. Its validity and legitimacy should be carefully studied.

FILE NO. 18. CONSERVATION OF THE GENERIC NAME *SALMONELLA* AND THE DEFINITE DESIGNATION OF THE TYPE SPECIES AND TYPE CULTURE. Definite agreement upon the name of the type species and upon a type culture of this species has been claimed to be an essential starting point in the elimination of the nomenclatural confusion within this genus. At present, bacteriology is confronted with a dual system of nomenclature. One is based upon the concepts generally recognized in the taxonomy of other groups and another based almost entirely upon the identification and naming of serotypes.

FILE NO. 19. CONSERVATION OF THE GENERIC NAME *RICKETTSIA*, THE DESIGNATION OF THE TYPE SPECIES AND THE SELECTION OF THE TYPE STRAIN. The fixing of the type species and designation of the type strain will involve some new problems inasmuch as members of this genus cannot be cultivated in conventional laboratory media and must be grown in tissue cultures.

FILE NO. 20. CONSERVATION OF THE GENERIC NAME *ACTINOMYCES*, THE FIXING AND CONSERVATION OF THE NAME OF THE TYPE SPECIES AND THE DESIGNATION OF A TYPE CULTURE. There is much confusion in the literature in the use of this generic name, and even more with reference to which of the numerous strains that have been de-

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scribed under the name *Actinomyces bovis* should be regarded as representing the type

FILE NO. 21. CONSERVATION OF THE GENERIC NAME *LACTOBACILLUS* AND FIXING AND DESIGNATION OF THE TYPE SPECIES AND TYPE CULTURE

FILE NO. 22. CONSERVATION OF THE GENERIC NAME *LEUCONOSTOC* AND DESIGNATION OF THE TYPE SPECIES AND TYPE STRAIN. Some workers follow Orla Jensen in use of the generic name *Betacoccus*.

FILE NO. 23. CONSERVATION OF THE GENERIC NAME *MICROCOCUS* AND FIXING OF THE TYPE SPECIES AND TYPE CULTURE. If *Staphylococcus* is to be recognized as a genus or as a subgenus, then this name and the name of its type species likewise should be conserved. The type culture should be agreed upon.

FILE NO. 24. CONSERVATION OF THE GENERIC NAME *NEISSERIA*, THE DESIGNATION OF THE TYPE SPECIES, CONSERVATION OF THE NAME OF THE TYPE SPECIES AND DESIGNATION OF THE TYPE CULTURE

FILE NO. 25. CONSERVATION OR REJECTION OF *STREPTOBACILLUS* AS A GENERIC NAME: IF CONSERVED THE FIXING OF THE TYPE SPECIES AND TYPE CULTURE. The generic name *Streptobacillus* has been used in several different senses. It is currently used by some authors as a name for some of the pleuropneumonia group of microorganisms.

FILE NO. 26. CONSERVATION OF THE GENERIC NAME FOR THE GENUS WHICH INCLUDES THE GLANDERS BACILLUS, THE GENERIC NAMES *MALLEOMYCES* AND *PFEIFFERELLA*. THE DESIGNATION OF THE TYPE SPECIES, THE CONSERVATION OF THE NAME OF THE TYPE SPECIES AND THE DESIGNATION OF A TYPE CULTURE.

FILE NO. 27. CONSERVATION OF ONE OR OTHER OF THE GENERIC NAMES *SIMONSIELLA* OR *CARYOPHANON*, WITH FIXING OF THE TYPE SPECIES AND DESIGNATION OF THE TYPE CULTURE OR STRAIN.

FILE NO. 28. CONSERVATION OF THE GENERIC NAME *CALYMMATOBACTERIUM*, THE DESIGNATION AND CONSERVATION OF THE NAME OF THE TYPE SPECIES AND OF THE TYPE STRAIN. The generic name *Donovania* is also used in the literature.

FILE NO. 29. CONSERVATION OF THE GENERIC NAME *RHIZOBIUM*, THE DESIGNATION OF THE TYPE SPECIES, THE CONSERVATION OF THE NAME OF THE TYPE SPECIES AND THE DESIGNATION OF THE TYPE CULTURE.

FILE NO. 30. CONSERVATION OF THE GENERIC NAME *XANTHOMONAS*, THE FIXING OF THE TYPE SPECIES, THE CONSERVATION OF THE NAME OF THE TYPE SPECIES, AND THE DESIGNATION OF THE TYPE CULTURE. The generic name *Xanthomonas* was created to replace the invalid name *Phytomonas* with the type species *Phytomonas campestris*. The author of the name *Xanthomonas* designated *Xanthomonas hyacinthi* as the type species.

FILE NO. 31. THE STATUS OF THE GENERIC NAME *ACHROMOBACTER* VS *ACHROMOBACTERIUM*. CONSERVATION OF THE GENERIC NAME AND THE DESIGNATION OF A TYPE SPECIES AND TYPE CULTURE.

FILE NO. 32. CONSERVATION OF THE GENERIC NAME *FLAVOBACTERIUM* WITH DESIGNATION OF TYPE SPECIES AND OF TYPE CULTURE.

FILE NO. 33. CONSERVATION OF THE GENERIC NAME *VIBRIO* WITH A DESIGNATION OF THE TYPE SPECIES, THE CONSERVATION OF THE NAME OF THE TYPE SPECIES AND DESIGNATION OF THE TYPE CULTURE.

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FILE NO. 34. CONSERVATION OF THE GENERIC NAME *PASTEURELLA*, THE DESIGNATION OF A TYPE SPECIES, THE CONSERVATION OF A NAME OF THE TYPE SPECIES AND THE DESIGNATION OF A TYPE CULTURE.

FILE NO. 35. CONSERVATION OF THE GENERIC NAMES *DIALISTER* WITH THE DESIGNATION OF TYPE SPECIES AND TYPE CULTURE.

FILE NO. 36. CONSERVATION OF THE GENERIC NAME *SARCINA*, THE FIXING OF THE TYPE SPECIES, THE CONSERVATION OF THE NAME OF THE TYPE SPECIES AND THE DESIGNATION OF THE TYPE CULTURE. This problem is much complicated by the discovery that what has commonly been recognized as the type species of *Sarcina*, namely *Sarcina ventriculi*, is quite a different organism from the species commonly included in the genus *Sarcina*. It has been proposed that this type species (monotype) be transferred to a new genus *Zymosarcina*. Alternately many species now labeled *Sarcina* should be transferred to another genus.

FILE NO. 37. THE CORRECT SPECIFIC EPITHETS IN THE GENUS *STREPTOCOCCUS*. *PYOGENES* VS. *ERYSIP-ELATIS* AND *AGALACTIAE* VS. *MASTITIDIS* VS. *MICARDIA*.

FILE NO. 38. THE CORRECT SPECIFIC EPITHET FOR THE ORGANISM ASSOCIATED WITH TYPHOID FEVER. I.E., *TYPHI ABDOMINALIS* VS. *TYPHI* VS. *TYPHOSA*. CONSERVATION OF THE CORRECT SPECIFIC EPITHET.

FILE NO. 39. THE CORRECT SPECIFIC EPITHETS FOR CERTAIN SPECIES IN THE GENUS *RICKETTSIA*

I.E., *TYPHI* VS. *MANCHURIAE* VS. *MOOSERI* AND *TSUTSUGAMUSHI* VS. *ORIENTALIS*.

FILE NO. 40. THE DESIGNATION OF THE TYPE SPECIES IN THE GENUS *VEILLONELLA*. *GAZOGENES* VS. *ALCALESCENS*.

FILE NO. 41. THE CORRECT SPELLING OF A SPECIFIC EPITHET IN THE GENUS *SHIGELLA*. *EQUULI* VS. *EQUIRULIS*.

FILE NO. 42. THE CORRECT SPELLING OF THE SPECIFIC EPITHET IN *BORRELLIA RECURRENTIS*.

FILE NO. 43. THE CORRECT SPECIFIC EPITHETS FOR CERTAIN SPECIES IN THE GENUS *CLOSTRIDIUM*. *PUTRIFICUM* VS. *LENTOPUTRESCENS* AND *PASTEURIANUM* VS. *AMYLOBACTER*.

FILE NO. 44. THE CORRECT NAME FOR THE FUNGUS FREQUENTLY TERMED *OIDIUM LACTIS*.

FILE NO. 45. THE STATUS OF THE FUNGUS GENUS *CRYPTOCOCCUS* AND THE DESIGNATION OF ITS TYPE SPECIES AND A TYPE CULTURE.

FILE NO. 46. THE CORRECT SPELLING OF THE PROTOZOAN GENERIC NAME *ENTAMOBA* OR *ENDAMOBA*.

FILE NO. 47. CORRECT CITATION OF AUTHORS OF NAMES OF TAXA. Names of new taxa and new combinations are validly published in many ways, but in some cases the name of the proponent of the taxon is not always evident. The author of a name may be obscure when there is confusion of editorship and authorship.